



Complete Summary

GUIDELINE TITLE

American Gastroenterological Association medical position statement: evaluation and management of occult and obscure gastrointestinal bleeding.

BIBLIOGRAPHIC SOURCE(S)

American Gastroenterological Association medical position statement: evaluation and management of occult and obscure gastrointestinal bleeding.
Gastroenterology 2000 Jan; 118(1):197-200. [16 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Occult bleeding
- Obscure-occult bleeding
- Obscure-overt bleeding

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Screening
Treatment

CLINICAL SPECIALTY

Colon and Rectal Surgery
Family Practice
Gastroenterology
Internal Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To present recommendations on the evaluation and management of occult and obscure gastrointestinal bleeding

TARGET POPULATION

- Individuals with an initial presentation of a positive fecal occult blood test result and/or iron-deficiency anemia, with no evidence of passing fecal blood visible to the patient or physician (occult bleeding).
- Individuals with either recurrent iron-deficiency anemia and/or recurrent positive fecal occult blood test results (obscure-occult bleeding) or individuals with recurrent passage of visible blood (obscure-overt bleeding).

INTERVENTIONS AND PRACTICES CONSIDERED

Occult bleeding

Diagnosis

1. History and physical examination
2. Fecal occult blood test
3. Colonoscopy
4. Upper endoscopy
5. Barium enema (single column and air-contrast), with or without combination of flexible sigmoidoscopy)
6. Upper gastrointestinal series

[NOTE: Small bowel biopsy, small bowel follow-through radiographs, enteroclysis, and enteroscopy should be reserved for cases of persistent or recurrent iron-deficiency anemia or positive fecal occult blood test results, which by definition fall into the category of obscure bleeding (see below).]

Treatment

1. Management
2. Observation
3. Iron supplementation

Obscure bleeding

Diagnosis

1. Repeat routine upper and lower endoscopy
2. Small bowel biopsy
3. Colonoscopy
4. Push (peroral) and Sonde (transnasal) enteroscopy

5. Intraoperative enteroscopy
6. Retrograde enteroscopy
7. Enteroclysis
8. Small bowel x-ray series
9. Nuclear scan
10. Diagnostic angiography

Management

1. Endoscopic therapy
2. Angiographic therapy
3. Pharmacotherapy
4. Obliteration of vascular lesions using, thermal contact probes, injection sclerotherapy, argon plasma coagulation, or neodymium:yttrium-aluminium-garnet (Nd:YAG) laser
5. Blood transfusion
6. Iron supplementation
7. Correction of coagulation and platelet abnormalities
8. Transcatheter vasopressin infusion
9. Embolization therapy
10. Combination hormone therapy (ethinyl estradiol, norethisterone)
11. Octreotide
12. Surgical exploration and subsequent bowel resection

MAJOR OUTCOMES CONSIDERED

- Diagnostic yield of procedures in identifying source of bleeding
- Complications of diagnostic procedures
- Recurrence of bleeding (Rebleeding rates)
- Transfusion requirements
- Hemoglobin levels
- Time to arrive at diagnosis
- Need for repeat hospitalization
- Quality of life
- Complications of therapeutic procedures
- Mortality and morbidity rates of surgical procedures

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The studies referenced were identified by literature searches of articles published in English-language peer-reviewed journals, using relevant search terminology reflecting occult and obscure gastrointestinal bleeding and the various procedures performed to evaluate these conditions.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This document was approved by the Clinical Practice and Practice Economics Committee on May 16, 1999, and by the American Gastroenterological Association Governing Board on July 18, 1999.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Occult bleeding refers to the initial presentation of a positive fecal occult blood test (FOBT) result and/or iron-deficiency anemia (IDA), with no evidence of passing fecal blood visible to the patient or physician.

Obscure bleeding is defined as bleeding of unknown origin that persists or recurs (i.e., recurrent or persistent iron-deficiency anemia, fecal occult blood test positivity, or visible bleeding) after a negative initial or primary endoscopy (colonoscopy and/or upper endoscopy) result. Obscure bleeding can thus have two clinical forms:

1. obscure-occult, as manifested by recurrent iron-deficiency anemia and/or recurrent positive fecal occult blood test results, and
2. obscure-overt, with recurrent passage of visible blood.

Occult bleeding

A review of occult bleeding studies finds similarities between cases that are predominantly fecal occult blood test positive and those that are predominantly anemic with iron deficiency. Therefore, these two presentations probably represent a continuum of the same clinical spectrum -- intermittent or chronic slow bleeding occurring from various gastrointestinal (GI) lesions, benign or malignant. The fecal occult blood test may detect this bleeding at any point in a longitudinal course that can culminate in iron-deficiency anemia. Colonoscopy and upper endoscopy are the cornerstones for investigation of occult blood loss (see Figure 1 of the original guideline document). However, despite examination of the gastrointestinal tract from both directions, the origins of iron-deficiency anemia and positive fecal occult blood test results remain unexplained in as many as 52% of cases.

The question of which endoscopic procedure to perform first and whether a second endoscopic procedure from the opposite direction is necessary if the result of the first is negative are issues that are not answered conclusively in the published literature. Although prospective studies of occult bleeding cases do provide evidence that the upper gastrointestinal tract is a significant contributor to sources of gastrointestinal bleeding, they report on neither the sequential order of endoscopy nor the frequency of a diagnosis with the first procedure.

The patients' age will probably be the most important factor determining the order of investigation. Colon cancer will be found in 2%-17% of occult bleeding cases. Current colon cancer screening guidelines advise fecal occult blood test starting at age 50 years with the recommendation that a positive fecal occult blood test result warrants evaluation of the total colon, preferably by colonoscopy. Data on the ability of symptoms to predict the location of an intestinal lesion are variable and do not support limiting endoscopy to the symptom region. Prospective studies show that a bleeding source is identified in the upper gastrointestinal tract as often as or more often than in the lower tract. Gastric cancer was found in every study regardless of whether the indication for endoscopy was anemia or positive fecal occult blood test results. Upper endoscopy also resulted in a change in management in up to 49% of patients. These data support proceeding to upper endoscopy after a negative colonoscopy result, although the clinical and economic impact requires further study. The option of performing barium studies as an alternative to endoscopy will depend on factors such as patient preference, risk of conscious sedation, whether anticoagulation therapy is continued or discontinued, the general condition of the patient, comorbid diseases, and local expertise.

Many cases of occult bleeding with no diagnosis will not evolve into obscure bleeding. Thus, the original work-up in most cases of occult bleeding should not require diagnostic testing other than colonoscopy and/or upper endoscopy, even when the results of these procedures are negative (see Figure 1 of the original guideline document). Unless indicated by extenuating clinical evidence, small bowel biopsy, small bowel follow-through radiographs, enteroclysis, and enteroscopy should be reserved for cases of persistent or recurrent iron-deficiency anemia or positive fecal occult blood test results, which by definition fall into the category of obscure bleeding.

Obscure bleeding

Data are sparse on the frequency and natural history of the two forms of obscure bleeding, obscure-occult and obscure-overt bleeding. Repeating routine upper and lower endoscopy before investigation of the small bowel will frequently identify lesions overlooked at the initial endoscopy, most commonly erosions within large hiatal hernias (Cameron's erosions), peptic ulcer disease and vascular ectasia in the upper gastrointestinal tract, and angiodysplasia and neoplasia in the lower gastrointestinal tract. Thus, the diagnostic yield is sufficient to recommend a second look or a "second opinion" endoscopy. Enteroscopy can take the place of repeat upper endoscopy and may be more cost-effective (see Figure 2 of the original guideline document). Examination of the terminal ileum during routine colonoscopy should be included in the evaluation. However, dedicated retrograde enteroscopy should be reserved for instances in which other evidence indicates a potential source of blood loss in the terminal ileum.

The gross endoscopic appearance of the proximal small bowel can be suggestive of sprue and identify the need for biopsy. Failure to respond to oral iron may also be a clue. Patients with celiac sprue are generally younger, unlikely to be of African American or Asian origin, with significantly more episodes of diarrhea and longer duration of anemia than those without celiac disease.

Radioisotope bleeding scans may be helpful in localizing the site of obscure-overt bleeding when the bleeding rate exceeds 0.1-0.4 mL/min (see Figure 2 in the original guideline document), although verification with an alternate test such as angiography or endoscopy is usually needed because of significant false localization and miss rates. Delayed scans obtained 12-24 hours after injection of labeled red cells can be misleading and may only identify pooled blood at points separate from the bleeding site. Angiography demonstrates extravasation of contrast into the bowel lumen when active bleeding occurs at a rate of ≥ 0.5 mL/min, with the highest diagnostic yield when angiography is performed after a rapidly positive radioisotope bleeding scan result. Angiography can also identify lesions that are not actively bleeding by demonstrating typical vascular patterns seen in angiodysplasia and neoplasia. Administration of anticoagulants, vasodilators, or clot-lysing agents can propagate or precipitate bleeding and improve the yield of angiography. The potential risk of uncontrolled bleeding limits the use of this technique to selected cases that are without significant comorbid illnesses in which other modes of diagnosis have been exhausted. Intraoperatively, angiography may help the surgeon localize a bleeding lesion. At the discretion of the treating physician, nuclear scans and angiography may precede or be used in conjunction with endoscopy in the evaluation of obscure-overt bleeding (see Figure 2 in the original guideline document).

Push enteroscopy has evolved into the standard approach for evaluation of obscure bleeding, facilitated by the availability of long videoscopes and instrument-specific overtubes to assist in deep intubation and their relative ease of use. Although use of a long push enteroscope specifically designed to examine the small bowel may have advantages over peroral use of a standard or pediatric colonoscope, equipment availability will be the deciding factor. Sonde enteroscopy has the potential to visualize most if not all of the small bowel. However, it has limited use because of long procedure times, aggravated patient discomfort, and the need for an alternate mode of intervention for therapy. The optimal timing of enteroscopy in the diagnostic sequence has not been addressed in randomized trials. Its relatively high diagnostic yield compared with small bowel radiography suggests that push enteroscopy should precede enteroclysis or small bowel follow-through series (see Figure 2 in the original guideline document). This decision will also depend on equipment availability and local expertise.

Barium studies are often used in obscure bleeding before enteroscopy, after negative enteroscopy, or when enteroscopy is not immediately available. Although radiation exposure and patient discomfort are greater with enteroclysis, studies have documented significantly higher overall diagnostic yield, higher sensitivity, and shorter procedure times than with small bowel follow-through.

Currently, exploratory laparotomy for obscure bleeding is seldom reported without concomitant intraoperative enteroscopy (IOE). Intraoperative enteroscopy is usually applied in cases of transfusion-dependent bleeding that is not localized in spite of extensive diagnostic evaluation and in which the risks of continued bleeding are judged to outweigh the risks of laparotomy. If time allows, preoperative enteroscopy should be considered before proceeding to intraoperative enteroscopy (see Figure 2 in the original guideline document). Intraoperative enteroscopy can be performed perorally, transnasally, per rectum, or through single or multiple intestinal incisions. The choice of enteroscope type and entry site will necessarily depend on instrument availability, familiarity with the diagnostic approaches, and the experience and technical expertise of the surgeon and endoscopist.

Management

Although management of the primary disorder leading to occult and obscure gastrointestinal bleeding can vary depending on the nature of the disorder, management of blood loss generally falls into the following categories: endoscopic therapy, angiographic therapy, pharmacotherapy, surgery, and nonspecific measures.

Intestinal vascular lesions have been successfully obliterated using thermal contact probes, injection sclerotherapy, argon plasma coagulation, or neodymium:yttrium-aluminium-garnet (Nd:YAG) laser. Endoscopically directed thermal therapy applied to angiodysplasia has been shown to significantly decrease blood transfusion requirements, although some studies report high rebleeding rates. These discrepancies may be related to our incomplete knowledge of the significance and natural history of nonbleeding lesions found at endoscopy and the possibility that other lesions may be present in unexamined areas. Transcatheter vasopressin infusion and embolization at angiography are effective for small bowel as well as colonic bleeding. Embolization therapy may be

useful in patients with coronary artery disease or other conditions in which vasopressin infusion is relatively contraindicated or as an alternative to surgery in patients with significant comorbid conditions.

Medical therapy is usually reserved for diffuse vascular lesions, lesions in areas inaccessible to endoscopic therapy, cases in which bleeding continues despite endoscopic therapy or surgical resection, or cases in which bleeding is recurrent, the diagnosis is unknown, and vascular lesions are suspected. Combination hormone therapy (ethinyl estradiol, 0.035-0.05 mg; norethisterone, 1 mg) has been shown to be highly successful in prevention of rebleeding as long as therapy is continued in patients with suspected as well as confirmed angiodysplasia. Six-month courses of therapy with treatment pauses have been recommended to reduce the incidence of side effects, which include breast tenderness and vaginal bleeding in women and gynecomastia and loss of libido in men. Although the potential risk of thromboembolic events exists, one study found no difference in mortality attributable to cardiovascular diseases between treatment and control groups. Empiric combination hormone therapy appears appropriate in selected patients with persistent or recurrent obscure bleeding who have either suspected or confirmed intestinal angiodysplasia.

Although most bleeding tumors will warrant surgical excision, surgical exploration and subsequent bowel resection may also be necessary for control of obscure-overt bleeding or when bleeding is associated with high transfusion requirements. An aggressive approach to preoperative localization of bleeding may avoid the high morbidity and mortality of blind surgical resection performed in desperation. Rebleeding after resection probably reflects the multicentric nature of mucosal-based lesions such as angiodysplasia and again raises the question of whether the nonbleeding lesion found and resected was the source of bleeding.

Nonspecific measures include iron supplementation, correction of coagulation and platelet abnormalities, and intermittent blood transfusions if the anemia cannot be controlled with iron supplementation alone. These forms of therapy can represent the primary approach to treatment of selected patients and should not be looked upon as failure of the diagnostic approach. These measures are beneficial when the rate of blood loss is slow and in elderly patients in whom the risk of further diagnostic evaluation is greater than the risk of nonspecific management.

Conclusion

There appears to be no single efficient diagnostic approach or therapeutic panacea in the management of occult and obscure bleeding. Most patients will benefit from a meticulous investigative routine that attempts to visualize as much of the bowel as necessary. However, when the risks of further diagnostic procedures are significant, nonspecific measures and empiric therapy may be effective in controlling blood loss and improving quality of life.

CLINICAL ALGORITHM(S)

Algorithms are provided for the evaluation of occult bleeding and the evaluation of obscure bleeding.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation. A literature review accompanying the position statement uses appropriate studies to analyze occult and obscure bleeding.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

There appears to be no single efficient diagnostic approach or therapeutic panacea in the management of occult and obscure bleeding. Most patients will benefit from a meticulous investigative routine that attempts to visualize as much of the bowel as necessary. When the risks of further diagnostic procedures are significant, nonspecific measures and empiric therapy maybe effective in controlling blood loss and improving quality of life.

POTENTIAL HARMS

Complications of diagnostic procedures

- Push enteroscopy is a relatively safe procedure, with a low incidence of complications, some of which are related to the overtube. Complications reported include post-procedure abdominal pain, acute pancreatitis, Mallory-Weiss tear with bleeding requiring cauterization, and a pharyngoesophageal tear.
- Sonde-type enteroscopy can cause increased patient discomfort because of the length of the procedure. Complications are said to be uncommon, although bowel perforation occurred in 3% of patients in one series. Fourteen percent of patients developed epistaxis in another series; epistaxis requiring nasal packing has also been reported.
- Complications of intraoperative enteroscopy range from 0% to 52% and include mucosal laceration, intramural hematomas, mesenteric hemorrhage, perforation, prolonged ileus, Ogilvie's syndrome, intestinal ischemia, intestinal obstruction, stress ulcer, wound infection, and postoperative pulmonary infection. Mortality related to the procedure or to postoperative complications has been up to 11%.
- Complications from diagnostic angiography were seen in 17% and included excessive gastrointestinal blood loss related to the use of pharmacological agents (anticoagulants, vasodilators, or clot-lysing agents) and a groin puncture site hematoma.

Complications of therapeutic procedures

- There are sometimes serious and life-threatening complications associated with angiotherapy. Major cardiovascular complications have been noted in 9%-21% of patients receiving intra-arterial vasopressin, including myocardial infarction, arrhythmias, hypertension, and thrombosis of arteries remote from

the bleeding site. Fatal myocardial infarction has been reported as a complication of intra-arterial vasopressin administration. Complications with embolization were noted in 17% of patients in one series, including ileus, intestinal infarction requiring surgical resection, fistulization between bowel segments, and arterial thrombosis. Ischemic complications have been reported less often when embolization is performed for small bowel or gastroduodenal bleeding than when it is performed for colonic bleeding. This difference is thought to result from the relatively sparse collateral circulation in the colon. Embolization may have utility in patients with coronary artery disease or other disorders wherein vasopressin infusion is relatively contraindicated or as an alternative to surgery in patients with significant comorbid conditions.

- Treatment with combination hormonal therapy can cause adverse effects, such as breast tenderness and vaginal bleeding in women and gynecomastia and loss of libido in men. In one study, up to 57% of patients reported these adverse effects; these effects necessitated cessation of therapy in 40%. Few data are available on cardiovascular complications in patients with obscure bleeding who are receiving hormonal treatment. Although the potential risk for thromboembolic events exists, one study found no difference in mortality from cardiovascular diseases between treatment and control groups.
- No significant adverse effects other than mild hyperglycemia were noted with octreotide treatment.
- In reports addressing massive lower intestinal bleeding, blind total colectomy (i.e., without preoperative localization) has been associated with mortality rates up to 33%, and blind limited resection has been associated with rates up to 57%. Only 25% of patients subjected to blind abdominal colectomy survived without complications in one series. However, other surgical reports have noted lower mortality (55-10%) and morbidity (<10%) rates for both total and limited colonic resection.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Gastroenterological Association medical position statement: evaluation and management of occult and obscure gastrointestinal bleeding. Gastroenterology 2000 Jan; 118(1):197-200. [16 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1999 July 18 (reviewed 2001)

GUIDELINE DEVELOPER(S)

American Gastroenterological Association - Medical Specialty Society

SOURCE(S) OF FUNDING

American Gastroenterological Association

GUIDELINE COMMITTEE

American Gastroenterological Association Clinical Practice and Practice Economics Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

ENDORSER(S)

American Society for Gastrointestinal Endoscopy - Medical Specialty Society

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

According to the guideline developer, the Clinical Practice Committee meets 3 times a year to review all American Gastroenterological Association guidelines.

This review includes new literature searches of electronic databases followed by expert committee review of new evidence that has emerged since the original publication date.

This guideline has been reviewed by the developer and is still considered to be current as of Dec 2001.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Gastroenterological Association \(AGA\) Gastroenterology journal Web site](#).

Print copies: Available from American Gastroenterological Association, 4930 Del Ray Avenue, Bethesda, MD 20814.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Zuckerman GR, Prakash C, Askin MP, Lewis BS.. AGA technical review on the evaluation and management of occult and obscure gastrointestinal bleeding. Gastroenterology. 2000 Jan; 118(1):201-21. [226 references].

Electronic copies: Available from the [American Gastroenterological Association \(AGA\) Gastroenterology journal Web site](#).

The following is also available:

- The American Gastroenterological Association standards for office-based gastrointestinal endoscopy services. Gastroenterology. 2001 Aug; 121(2):440-443 [8 references].

Electronic copies: Available from the [American Gastroenterological Association \(AGA\) Gastroenterology journal Web site](#).

Print copies: Available from American Gastroenterological Association, 4930 Del Ray Avenue, Bethesda, MD 20814.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on June 5, 2002. The information was verified by the guideline developer on July 12, 2002.

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The logo for FIRSTGOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I".

